

REMARKS

Entry of the amendments is respectfully requested. Claims 1-14 have been amended. New claims 15-28 have been added. Claims 1-28 are pending in the application. Favorable reconsideration and allowance of this application is respectfully requested in light of the foregoing amendments and the remarks that follow.

1. Objection to the Drawings

The drawings stand objected to for containing non-English language labels in Figures 3 and 4. As noted above, the enclosed drawings have been amended to replace German-language labels with English-language labels to address the objection to the drawings. Accordingly, withdrawal of the objection is requested.

2. Objection to the Specification

The specification stands objected to for not containing the continuity data. Applicant submits that this objection was in error because a national phase application is not, technically speaking, a continuation, negating the need to identify a national stage application as such in the specification (see, generally 37 CFR §1.78.). Nevertheless, in the interest of expediting prosecution, the specification has been amended to incorporate a reference to the international application. Since this reference is voluntary as opposed to being required by the rules, no

petition under 37 CFR 1.78(a) or surcharge under 37 CFR 1.17(t) is required. Withdrawal of the objection is requested.

3. Rejection Under §112, Second Paragraph

Claims 9-14 stand rejected under 35 U.S.C. §112, paragraph 2 as being indefinite. Claim 9 has been amended to delete the reference to claim 1. This amendment addresses all concerns raised regarding the clarity of this claim. Claims 10-14 depend from claim 9. Accordingly, withdrawal of the rejection is requested.

In addition, all of the claims have been amended, without altering their scope, to place them into better conformance with preferred USPTO practice.

4. Rejections Based on the Prior Art

a. Recapitulation of the Invention¹

The invention relates to a method and a device for producing a toothbrush having a handle part and a brush head including a plurality of tufts of bristles. In the method, the plastified material is injected into a plurality of mold cavities configured in a joint tool for shaping structural parts with an identical geometry. Different components of the plastified material are supplied via separate channels to individual mold cavities for preparing different variants of one type of toothbrush in an efficient and inexpensive manner for ready-for-sale packaging. The device for producing a toothbrush of the above-mentioned type comprises an

¹ This Section 4a is intended to provide the Examiner with some background information on the state of the art and applicant's contribution to it. It is *not* intended to distinguish specific claims from the prior art. That task is performed in Section 4b below.

injection molding tool having formed therein a plurality of identical mold cavities. In the device, different plastifying units are assigned to individual mold cavities for efficiently and inexpensively preparing variants of one toothbrush type for ready-for-sale packaging.

With this process and device, however, toothbrushes of different characteristics, e.g., different colors, can be formed simultaneously in the same batch. This provides a range of different types of a specific toothbrush designs readily formed in a single process for immediate packaging and shipping. There is no need for storing different types of identical toothbrushes until the last type of the identical toothbrush to be included in the same packaging unit is manufactured via injection molding. (See, e.g., lines 3–11 of page 8 of the project application.)

b. Rejection Under § 103(a)

i. The Rejection of Claims 1-4 and 7

The rejection of claims 1-4 and 7 as unpatentable over U.S. Patent No. 6,051,176 to Boucherie in view of U.S. Patent No. 5,761,759 to Leversby et al. is respectfully traversed as the rejection may be applied to amended claim 1, because even if the references were combined, the invention of the amended claims would not result.

Claim 1 has been amended to require " wherein ~~plastified~~-material plastified by a plastifying unit is injected into a plurality of separate mold cavities configured in a joint tool for shaping identical, separated molded bodies." Claim 1 has been further amended to require that

"said individual mold cavities of identical shape are filled with different components of a plastified material in one injection molding cycle." In addition, claim 1 has been amended to require that the different components of the plastified material are supplied from individual plastifying units via separate channels to ~~the said~~ separate mold cavities.

The Examiner correctly recognizes that Boucherie fails to show the injection of *plasticized* material into its mold cavities. The Examiner cites Leversby et al. to cure this deficiency. However, the combined teachings of Boucherie and Leversby et al. fail to teach or suggest the method of amended claim 1.

Boucherie discloses a method for producing a toothbrush. Boucherie uses a material plastified by a first and second injection device 11, 13. The material is injected into a plurality of separate mold cavities 27 in a first mold 3 for shaping identical, separated molded bodies. Injection molding pieces 25 are formed of a first component 5 plastified by the first injection device 11. For this, the plastified component is injected into several mold cavities 23-24. As a result, a plurality of identical first injection molded pieces is formed from an identical component. After sufficient solidification of said component, the first injection molding pieces 25 are rotated into a second set of mold cavities 29. Those mold cavities are connected to the second injection device 13 plastifying a second component 9 that is different from the first component 5. The mold cavities 29 formed in a second mold 7 are larger than the mold cavities 27 formed in the first mold 3. Accordingly, over-molding of the first injection molded pieces 25 with the second component is conducted in the second mold 7. (col. 4, line 45 to col. 5, line 33).

The method described in Boucherie can be used to form a plurality of identical two-component toothbrushes. A two-component toothbrush comprises a basic body of a first, generally stiff, component and a second component, generally a softer component such as thermoplastic elastomer, which is molded over that basic body for improving the haptic properties of the toothbrush.

In contrast, the method of amended claim 1 requires filling of individual mold cavities of identical shape with *different* components of plastified material in *one* injection molding cycle from *individual* plastifying units. This feature is not disclosed in Boucherie. Instead, in Boucherie, a *single* component is injected into a plurality of identically shaped mold cavities.

Leversby et al. cannot cure this deficiency in Boucherie. In Leversby et al., a basic body 2 is made through a first injection molding process with a first plastic material. (col. 4, lines 19-20). A second material is received on the body 2 in a subsequent molding step (col. 4, lines 24-25). Thus, Leversby et al. discloses the production of a two-component toothbrush by over-molding of a basic body with a second component. It does *not* disclose or suggest the formation of toothbrushes of identical shape being formed from *different* plastic components plastified by *individual* plastifying units.

Thus, the references alone or in combination fail to teach or suggest the method of amended claim 1. Dependent claims 2-4 and 7 are believed to be in condition for allowance for incorporating by reference the limitations of claim 1 and for defining additional features of the

invention, which, when considered in combination with those of claim 1, are neither disclosed nor suggested by the prior art relied upon in the rejection.

In light of the amendment to claim 1 and the foregoing arguments, withdrawal of the rejection of claims 1-4 and 7 is respectfully requested.

ii. The Rejection of Claims 5 and 6

The rejection of claims 5 and 6 as unpatentable over Boucherie in view of Leversby et al. and further in view of Japanese Patent No. JP 10006363 A to Kinoshita is respectfully traversed as it may be applied to the amended claims. Claims 5 and 6 depend from amended claim 1.

Kinoshita cannot cure the basic deficiencies in the teachings of Boucherie and Leversby et al. Kinoshita discloses injection molding of a *single* component from a single plastifying unit 2 which is dyed with a coloring agent supplied by two different branch passages 12 provided between the single plastifying unit 2 and a manifold 22. (Translated Abstract) Thus, Kinoshita cannot cure the lack of a teaching of "said individual mold cavities of identical shape are filled with *different* components of a plastified material in one injection molding cycle," as amended claim 1 requires. In addition, Kinoshita cannot cure the lack of a teaching of *different* components of the plastified material are supplied from *individual* (i.e., different) plastifying units via separate channels to said separate mold cavities, as amended claim 1 also requires.

Further, Kinoshita has the disadvantage in that just a single plastifying unit is provided, i.e., a single component is injected into the individual mold cavities. In Kinoshita, the dye and

the single component injected into the branch passages do not mix completely, which results in a product with inferior quality. Such a quality cannot be accepted for production of toothbrushes, for which aesthetic appearance is important. Moreover, production of identically shaped products having different properties, such as stiffness, cannot be obtained with the method disclosed by Kinoshita.

In light of the amendment to claim 1 and the foregoing arguments, withdrawal of the rejection of claims 5 and 6, which depend from claim 1, is respectfully requested.

iii. The Rejection of Claims 1-3

The rejection of claims 1-3 as unpatentable over the admitted prior art in view of Kinoshita is respectfully traversed as it may be applied to the amended claims. The Examiner correctly recognizes that the admitted prior art fails to show the injection of different components of plastified materials into different cavities. The Examiner cites Kinoshita to cure various deficiencies in the admitted prior art. However, the Examiner does not allege that Kinoshita teaches the injection of *different* components of plastified materials into different cavities from individual plastifying units. As noted above, Kinoshita fails to teach this requirement of amended claim 1.

The combination of the admitted art and the disclosure of Kinoshita would not lead a person studying the art to the claimed method. In the method of claim 1, different components of a plastified material are injected into one single injection molding cycle. According to

Kinoshita, just a *single* component can be injected into a plurality of mold cavities in any given injection molding cycle. Kinoshita also does not contain any suggestion to provide individual plastifying units for each of two or more different components, as claim 1 requires. For at least these reasons, the subject matter of amended claim 1, along with the subject matter of claims 2-3, which depend therefrom, are nonobvious over the admitted prior art in view of Kinoshita.

In light of the amendment to claim 1 and the foregoing arguments, withdrawal of the rejection of claims 1-3 is respectfully requested.

iv. The Rejection of Claims 4-8

The rejection of claims 4-8 as unpatentable over the admitted prior art in view of Kinoshita and further in view of Boucherie is respectfully traversed as it may be applied to claims 4-8, which depend from amended claim 1. As should be clear from the above discussion of these references, the cited combination of references fails to teach or suggest the invention of claims 4-8.

In light of the amendment to claim 1 and the foregoing argument, withdrawal of the rejection of claims 4-8 is respectfully requested.

v. The Rejection of Claims 9 and 10

The rejection of claims 9 and 10 as unpatentable over Boucherie in view of the admitted prior art is respectfully traversed, because, *inter alia*, there is no teaching or suggestion to

combine or modify the references to produce the claimed invention. MPEP §2143.01.

Furthermore, even if the references were combined, the invention would not result. The Examiner correctly recognizes that Boucherie fails to show that the material supply units of Boucherie are plastifying units and cites the admitted prior art to cure this deficiency. However, as the Examiner admits, the admitted prior art merely shows that toothbrush mold cavities are filled with a generic plastified material.

Claim 9 recites a device for producing a toothbrush having a handle part and a brush head including a plurality of tufts of bristles. Claim 9 requires the device to include an injection molding tool having formed therein a plurality of identical mold cavities. Claim 9 further requires that the device have a *plurality* of plastifying units, *each* communicating with different mold cavities of the injection molding tool.

The device of claim 9 is not suggested by the combination of Boucherie and the admitted prior art. Specifically, Boucherie does not teach individual mold cavities of identical shape are assigned to *different* plastifying units. The admitted prior art does not state that more than one plastifying unit would communicate with different mold cavities of a single injection molding tool. Therefore, one skilled in the art would not have been motivated to modify the teachings of Boucherie to produce the claimed invention.

In light of the foregoing arguments, withdrawal of the rejection of claim 9, and claim 10, which depends therefrom, is respectfully requested.

vi. The Rejection of Claim 11

The rejection of claim 11 as unpatentable over Boucherie in view of the admitted prior art and further in view of Kinoshita is respectfully traversed, because, *inter alia*, there is no teaching or suggestion to combine or modify the references to produce the claimed invention. MPEP §2143.01. Furthermore, even if the references were combined, the invention would not result. The Examiner correctly recognizes that Boucherie fails to show the injection of different components around the first formed component in the second injection-molding step and cites the admitted prior art and Kinoshita to cure this deficiency.

Claim 11 depends from claim 9 and is believed to be in condition for allowance for at least the reasons that claim 9 is believed to be allowable. In addition, claim 11 requires "that different plastifying units are assigned to individual ones of the second mold cavities." As noted above, no cited reference shows multiple plastifying units. Therefore, there is not teaching or suggestion of the additional requirement of claim 11.

In light of the foregoing argument, withdrawal of the rejection of claim 11 is respectfully requested.

vii. The Rejection of Claims 12-14

The rejection of claims 12-14 as unpatentable over Boucherie in view of the admitted prior art and further in view of U.S. Patent No. 5,922,363 to Beck et al. is respectfully traversed, because, *inter alia*, there is no teaching or suggestion to combine or modify the references to

produce the claimed invention. MPEP §2143.01. Furthermore, even if the references were combined, the invention would not result. The Examiner correctly recognizes that Boucherie fails to show a shut-off valve that can be brought into flow communication with individual or several cavities and cites Beck et al. to cure this deficiency.

Beck et al. discloses a cavity mold 10 for the sequential coinjection molding of multi-layered preforms for the blow molding of multi-layered containers comprising interior and exterior surfaces. The mold, as illustrated, has four cavities 12. (col. 4, lines 57-62). The mold 10 defines a plurality of hot runners 18 each for conveying sequential quantities of alternating first and second molding materials contiguously from a times valve mechanism 20, one for each cavity. (col. 5, lines 11-15). The first and second materials are supplied by plasticizers 26 and 28. Each timed valve mechanism 20 switches between two discrete positions corresponding to runners 25 and 27 so that the two materials are sequentially supplied contiguously to the hot runner 18 of the associated cavity. (col. 5, lines 18-24).

However, Beck et al. fails to cure the basic deficiency in the teachings of Boucherie and the admitted prior art. That is, Beck et al. fails to teach or suggest a device having a plurality of plastifying units, each communicating with *different* mold cavities of the injection molding tool. Instead, in Beck et al. the plasticizers 26 and 28 communicate with the *same* mold cavities 12 to form multi-layered containers.

Thus, dependent claims 12-14, which depend from claim 9, are believed to be in condition for allowance for incorporating by reference the limitations of claim 9. The additional

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teachings of Beck et al. cannot cure the aforementioned deficiencies in the teachings of Broucherie and the admitted prior art.

In light of the foregoing, withdrawal of the rejection of claims 12-14 is respectfully requested.

5. New Claims

In addition, new claims 15-28 were added and generally track original claims 1-14. New claims 15-28 are in even better conformance with preferred U.S. Patent Office practice and are believed to be allowable for the reasons that claims 1-14 are believed to be allowable.

CONCLUSION

It is submitted that original claims 1-14 are in compliance with 35 U.S.C. §§ 112 and 103 and each define patentable subject matter. New claims 15-28 are also believed to be allowable. A Notice of Allowance is therefore respectfully requested.

Enclosed is a check for \$228 for one independent claim in excess of three and eight claims in excess of twenty. No other fee is believed to be payable with this communication. Nevertheless, should the Examiner consider any other fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

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The Examiner is invited to contact the undersigned by telephone if it would help expedite matters.

Respectfully submitted,



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